

Montana Driver Education and Training

Effect of Emotions and Disabilities on the Driving Task



Standards and Benchmarks

2. Responsibility

- a. recognize the importance of making safe and responsible decisions for owning and operating a vehicle
- b. demonstrate the ability to make appropriate decisions while operating a motor vehicle
- c. consistently display respect for other users of the highway transportation system
- d. develop habits and attitudes with regard to responsible driving

3. Visual Skills

- d. develop habits and attitudes with regard to proper visual skills

6. Risk Management

- a. understand driver risk-management principles
- b. demonstrate driver risk-management strategies
- c. develop driver risk-management habits and attitudes

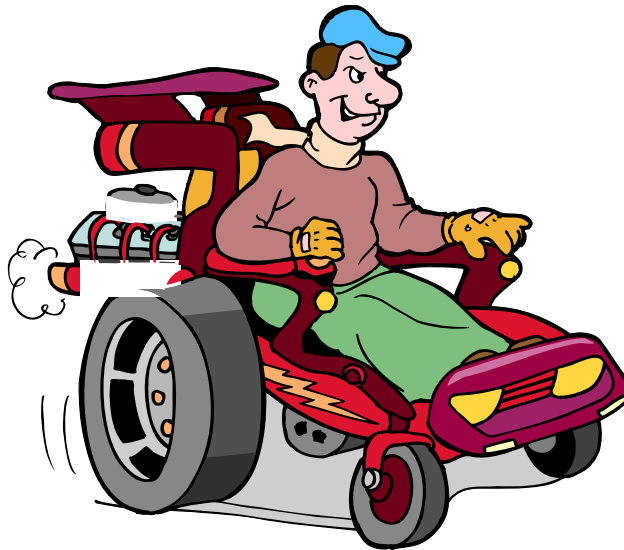
7. Lifelong Learning

- a. understand past, present and future vehicle and roadway design, and driving cultures
- b. describe past, present and future motor vehicle laws
- c. understand benefits of a lifelong learning approach to driving



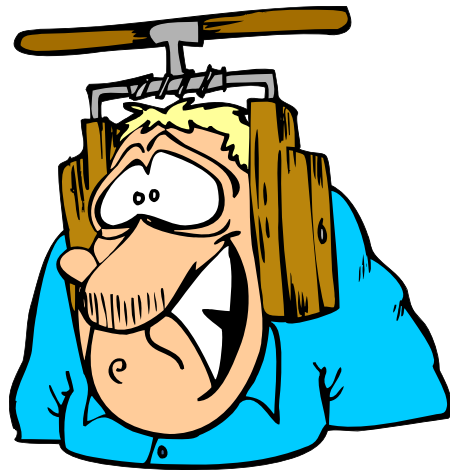
INTRODUCTION

- Explore how the senses are used while driving and develop an understanding of how emotions affect the driving task and ways drivers can manage emotional situations while driving
- Temporary and permanent disabilities may affect the driving task but there are ways to compensate for disabilities while driving



SENSES USED WHILE DRIVING

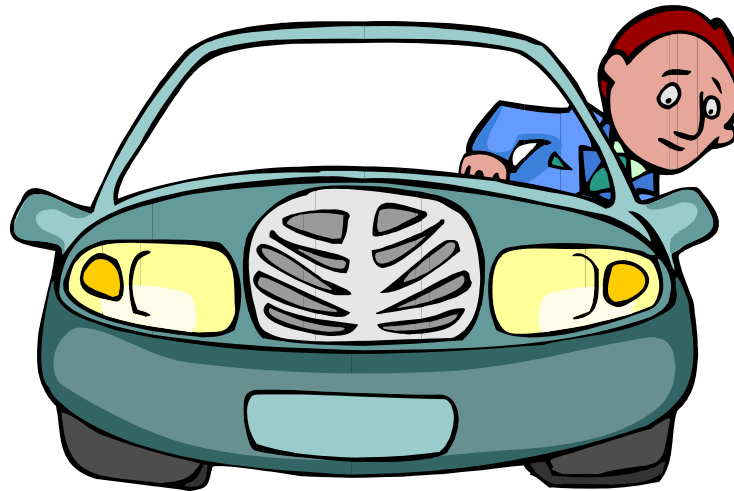
- Knowing what normal senses are will help drivers identify when their senses are impaired
- Anytime senses are impaired, driving risks increase, especially if compensation techniques are not known or used
- Risks increases with more multi-tasking causing sensory overload which can result in a crash



SENSES USED WHILE DRIVING

Seeing

- Obstructed or blocked vision can increase risk if adjustments are not made to improve vision while
 - Talking on a cell phone
 - Looking at a map
 - Turning to look at a passenger



SENSES USED WHILE DRIVING

Hearing

- Examples of how drivers affect their ability to hear while driving include:
 - Drive with headphones on
 - Drive with the radio or music system too loud
 - Talk on a cell phone



SENSES USED WHILE DRIVING

Smelling

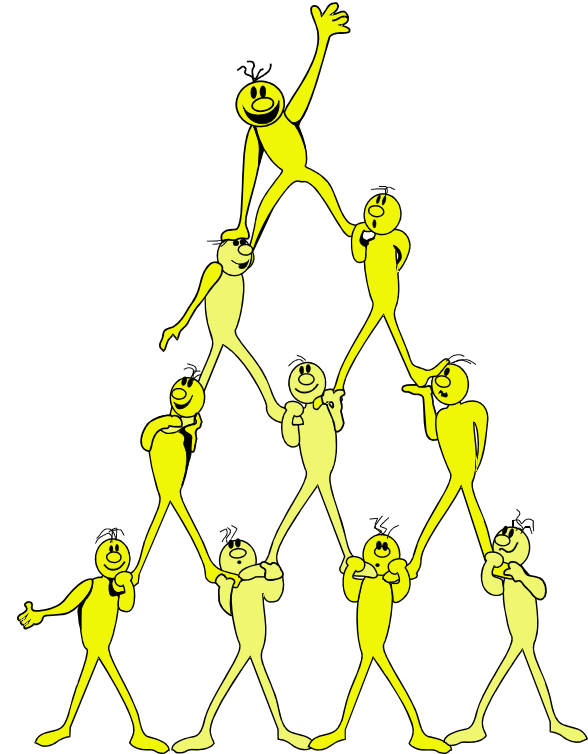
- The ability to smell accurately assists drivers in identifying odors coming from the vehicle that may indicate vehicle problems such as:
 - Hot engine
 - Exhaust fumes
 - Hot brakes
 - Oil burning



SENSES USED WHILE DRIVING

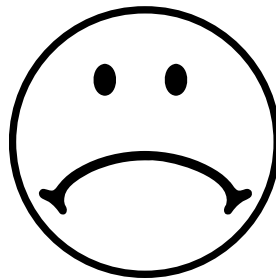
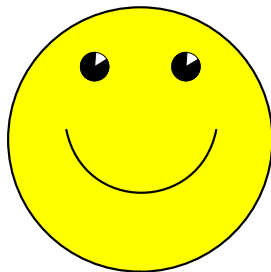
Motion

- Drivers need a good sense of motion and balance to give them clues about their driving or vehicle
- Balance is needed for vehicle tracking, pitch, roll, and yaw, change in speed
- Vibrations could indicate vehicle problems or road conditions that require an adjustment



EMOTIONS

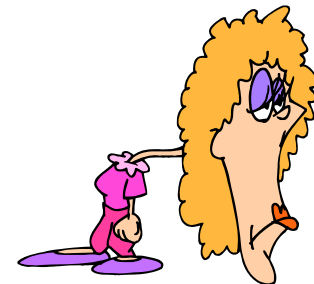
- Strong emotions, both positive and negative, can effect drivers and how they use reduced risk driving decisions
- When a driver slides in behind the wheel of a vehicle, the driver takes responsibility for the lives of people in the vehicle and others sharing the road
- Concentration is vital to safe driving
- The driver's seat is no place for daydreaming, window shopping, intense conversation, or looking at scenery
- There have been too many crashes after which the surviving driver said *"I don't know what happened"*
- Driver error causes more than 90% of highway crashes



MENTAL EFFECTS OF EMOTION ON DRIVING BEHAVIOR

Strong emotions can affect thinking, reasoning, and decision-making

- **Excited**: drive inattentive, speed
- **Angry**: drive aggressive, speed
- **Sad**: slow reaction time
- **Depressed**: slow reaction time
- **Anxious**: slow reaction time, distracted, difficulty identifying potential hazards
- **Stressed**: drive aggressive, distracted
- **Worried**: drive inattentive
- **Frustrated**: drive aggressive, speed
- **Depressed**: concentration and coordination of vehicle controls



PHYSICAL EFFECTS OF EMOTION

- Emotions affect the body
 - Heart rate increases
 - Breathing increases
 - Muscles tighten
 - Adrenaline rushes
 - Digestion slows
 - Fatigue
 - Headaches



WAYS TO CONTROL EMOTIONS WHILE DRIVING

- Expressing emotions while behind the wheel leads to distractions from the driving task
- Use techniques to control emotions
- Use a space-management system until they are habits
- Anticipate emotional situations and adjust attitude
- Do NOT challenge other aggressive drivers
- Adjust route to avoid frustrating situations
- Be courteous
- Avoid distracting discussions
- Play music that soothes



PHYSICAL DISABILITIES

- Temporary Disabilities — Eventually, most people will have a temporary disability that must be evaluated before starting the car's ignition
- Examples include:
 - Cold
 - Flu
 - Broken or sprained foot or leg, hand, arm or shoulder
 - Concussion
 - Eye Injury
- Medicine to help with temporary disability or illness can increase risk while driving by causing:
 - Drowsiness
 - Dizziness
 - Nausea
 - Vision disturbance



CARBON MONOXIDE POISONING

Carbon monoxide poisoning is caused by gas fumes entering an enclosed vehicle compartment

- Starting a car in an enclosed garage; intake of fumes while stopped in traffic
- driving with the rear window open can lead to gas fumes entering a vehicle and can cause death

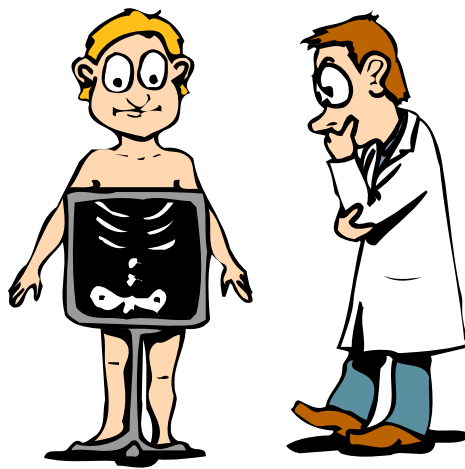
Be aware of these symptoms that can indicate carbon monoxide poisoning

- Headache
- Dizziness
- Nausea
- Drowsiness
- Confusion
- Loss of strength
- Unconsciousness



PERMANENT DISABILITIES

- Many people with physical disabilities can obtain a driver's license if a physical condition exists that could affect driving
- The Motor Vehicle Division may require medical information and the use of adaptive equipment as the condition for issuing a driver's license
- Following are some examples of major physical conditions and the adaptive equipment that can be required for a driver's license



PERMANENT DISABILITIES

PHYSICAL CONDITION

- Poor Visual Acuity
- Blind in one eye
- Progressive Eye Disease
- Night Vision
- Hearing Problem
- Neck Problem - Limited Head Movement
- Back Problems
- Arms - Cannot Raise
- Loss of arm
- Artificial arm
- Knee or Leg Problem
- Cerebral Palsy (Depends on area affected)
- Epilepsy
- Dwarfism

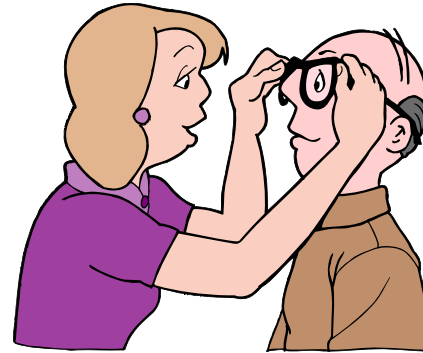
POSSIBLE RESTRICTION

Corrective Lenses
Outside Mirrors
Periodic Eye Examination
Daytime Driving Only
Outside or Panoramic Mirrors
Outside Mirrors
Outside Mirrors
Automatic Transmission, Power Steering
Automatic Transmission, Power Steering, Steering Knob
Steering Knob
All Hand Controls, Automatic Transmission
See Arm and Leg conditions
Periodic Medical Examination
Special Seat, Pedal Extensions, all Hand Controls



OLDER DRIVERS DISABILITIES

- Older drivers can have age-related medical conditions that can affect driving performance
- Examples include:
 - Slow reflexes
 - Dull vision and concentration
 - Weaker and stiffer muscles
 - Decreased depth perception/blurred field of vision
 - Macular degeneration
 - Night blindness more pronounced
 - Poor hearing



CHRONIC ILLNESSES

- Some long-term illnesses and diseases can limit driving because of the severe consequences such as loss of consciousness
- Examples include
 - Diabetes
 - Heart disease



COMPENSATION TECHNIQUES

- Be aware of the potential for reduced mental and physical conditions that can increase risk while driving
- Avoid driving when medications indicate use of machinery should be avoided
- Drive in lower stress environments where fewer decisions need to be made
- Slow down
- Increase space cushions
- Let someone else drive

